REMARKS

Applicants hereby amend claims 15, 28, and 29, add claims 43 and 44, and cancel claims 16 and 22. Claims 15, 17-21, and 23-44 remain pending in this application, of which claims 17-21, 23-27, and 30-42 have been withdrawn from consideration.

Amended Claims 15 and 22

Applicants amend independent claim 15 to incorporate the limitations of dependent claims 16 and 22. Applicants cancel claims 16 and 22 to avoid redundancy with claim 15, amend claim 28 to maintain consistent claim dependency, and amend claim 29 to more appropriately define the claimed subject matter in conjunction with new claims 43 and 44.

New Claims 43 and 44

Applicants add dependent claims 43 and 44 to recite the feature that "the line width is further increased by a misalignment amount." The term "misalignment amount" is synonymous with the term "alignment margin" that was previously recited in claim 29. The term "misalignment amount" is supported in the Specification as originally filed, such as at page 46, line 22 to page 47, line 2, which refer to Figures 17A and 17B.

New claim 43 complies with the written description requirement of 35 U.S.C. § 112, first paragraph, for at least the reason that the feature that "the line width is further increased by a misalignment amount" is described in the text and drawings of the Specification. For example, Figure 17A shows a table in which the first row contains a misalignment amount of "+C" without a corresponding increase of half the design grid

width. Figure 17B shows a table in which the last row also contains a misalignment amount of "+C" without a corresponding increase of half the design grid width. The Specification contains text corresponding to Figures 17A and 17B at, for example, pg. 46, line 18 to pg. 47, line 8. Thus, claim 43 complies with the written description requirement.

In addition, the drawings show the feature "the line width is further increased by a misalignment amount," as recited in claim 43. As explained above, Figures 17A and 17B show tables in which the first row and the last row, respectively, contain alignment margins of "+C" without corresponding increases of half the design grid width. Thus, the drawings show the feature recited in claim 43.

§ 112, First Paragraph, Rejection of Claim 29

Applicants respectfully traverse the rejection of claim 29 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

Claim 29 previously recited, "the line width is further increased by half the design grid width and/or an alignment margin." The Examiner argues, "[a] claim with 'and/or' requires the specification to show three embodiments, one embodiment showing 'the line width is increased by half the design grid width' which is satisfied by the originally filed specification at least in the first embodiment, a second embodiment showing 'the line width is increased by an alignment margin' which is not satisfied by the originally filed specification, and a third embodiment showing 'the line width is increased by half the design grid width and an alignment margin' which is satisfied by the originally filed specification at least in the eighth embodiment. The use of 'and/or' constitutes new

matter because nowhere in the originally filed specification there is [sic] an embodiment showing 'the line width is increased by only alignment margin'." (Office Action, pg. 3, paragraph 2.)

Claim 29 is being amended to delete the phrase "and/or an alignment margin." Thus, the rejection of claim 29 under § 112, first paragraph is moot and should be withdrawn.

Objection to Drawings under 37 C.F.R. § 1.83(a)

The Examiner objected to the drawings under 37 C.F.R. § 1.83(a) as allegedly not showing every feature of the invention specified in the claims. The Examiner argues that the feature "the line width is increased by half the design grid width and/or an alignment margin" must be shown in the drawings or canceled from the claims.

As explained above, claim 29 is being amended to delete the phrase "and/or an alignment margin." Thus, the objection to the drawings under 37 C.F.R. § 1.83(a) is moot and should be withdrawn.

§ 102(b) Rejection of Claims 15, 16, 22, and 28 over *Yamamoto et al.*

Applicants respectfully traverse the rejection of claims 15, 16, 22, and 28 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,879,844 to Yamamoto et al. ("*Yamamoto et al.*"). To properly anticipate Applicants' claims under 35 U.S.C. § 102, each and every element as set forth in the claim must be found, either expressly or inherently described, in a single prior art reference. *See* MPEP § 2131. *Yamamoto et al.* fails to disclose each and every element recited in claims 15, 22, and 28.

For example, *Yamamoto et al.* does not disclose a "pattern correcting method of a mask for manufacturing a semiconductor device comprising: extracting a correction portion to be corrected from a mask pattern on the mask, the correction portion being an overlapped portion where a line portion overlaps a contact portion," as recited in amended independent claim 15, from which claims 22 and 28 depend.

Instead, *Yamamoto et al.* teaches "an optical proximity correction (OPC) method" (col. 8, lines 24-25). "[D]ata on gate conductor layers and diffusion layers are entered (step S11 in FIG. 17, and FIG. 18A). Next, pattern calculations (logical product) are performed to extract those sides of polygons of the gate conductor layers which overlap the diffusion layers (step S12). In FIGS. 18A to 18C, shaded areas indicates [sic] the gate conductor layers and the dotted areas indicate the diffusion layers. Of those sides, sides in the same pattern that are parallel to each other and satisfy either of the following conditions are made candidates for correction." (Col. 16, lines 40-49.)

The portions of the diffusion layers that are overlapped by the gate conductor layers of *Yamamoto et al.* are not "contact portions," as required by claim 15 (emphasis added). A contact portion is a portion that corresponds to a location where an electrically-conductive contact will be made in the manufactured semiconductor device. In *Yamamoto et al.*, the gate conductor layers do not "contact" the diffusion layers at the overlapping portions. Furthermore, the gate conductor layers do not make an electrically-conductive contact with the diffusion layers at the overlapping portions. Thus, *Yamamoto et al.* does not disclose "extracting a correction portion to be corrected from a mask pattern on the mask, the correction portion being an overlapped portion

where a line portion overlaps a contact portion," as recited in claim 15 (emphasis added).

For at least the reason that *Yamamoto et al.* does not disclose each and every element of independent claim 15, the rejection of claim 15 and claims 22 and 28, which depend from claim 15, should be withdrawn. Moreover, since claim 16 is being canceled, this rejection is moot in relation to claim 16.

§ 103(a) Rejection of Claim 29 over *Yamamoto et al.*

Applicants respectfully traverse the rejection of claim 29 under 35 U.S.C. § 103(a) as unpatentable over *Yamamoto et al.* No *prima facie* case of obviousness has been established.

To establish a *prima facie* case of obviousness under § 103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Moreover, both of these requirements must be found in the prior art, not in applicant's disclosure. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP § 2143 (8th ed., Rev. 4, October 2005).

Claim 29 is allowable over *Yamamoto et al.* for at least the reason that *Yamamoto et al.* does not teach or suggest each and every element of independent claim 15, from which claim 29 depends. For example, *Yamamoto et al.* fails to teach or suggest an information processing apparatus comprising "extracting a correction portion

to be corrected from a mask pattern on the mask, the correction portion being an overlapped portion where a line portion overlaps a contact portion," as required by amended claim 15.

As explained above, the portions of the diffusion layers that are overlapped by the gate conductor layers of *Yamamoto et al.* are not "contact portions," as required by claim 15 (emphasis added). The gate conductor layers of *Yamamoto et al.* do not "contact" the diffusion layers at the overlapping portions, and therefore the gate conductor layers also cannot make an electrically-conductive contact with the diffusion layers at the overlapping portions. Thus, *Yamamoto et al.* fails to teach or suggest "extracting a correction portion to be corrected from a mask pattern on the mask, the correction portion being an overlapped portion where a line portion overlaps a contact portion," as recited in claim 15 (emphasis added).

For at least the reason that *Yamamoto et al.* does not teach or suggest each and every element of independent claim 15, no *prima facie* case of obviousness has been established. Thus, the rejection of claim 29, which depends from claim 15, should be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: February 28, 2007

By:_____
Reece Nienstadt
Reg. No. 52,072